

ABSTRACT OF THE DISCLOSURE

The object of the present invention is to provide a control valve for a variable displacement compressor, which is used for controlling differential pressure between discharge pressure and suction pressure such that the differential pressure becomes equal to differential pressure set by duty ratio control, and improved in characteristics thereof when it is in the vicinity of the valve-closing position. A valve section for controlling the flow rate of refrigerant at discharge pressure P_d to thereby supply refrigerant at pressure P_c to a crankcase is implemented by a spool valve structure. A spool valve element and a shaft arranged coaxially with each other are configured such that the spool valve element and the shaft oppositely receive the discharge pressure P_d and the suction pressure P_s , respectively. The differential pressure between the discharge pressure P_d and suction pressure P_s , which is to be controlled, is set by a pulse current supplied to a solenoid section which is duty ratio controlled. As a result, the spool valve element performing micro vibration due to duty ratio control is prevented from colliding against a valve seat when it is in the vicinity of the valve-closing position, so that it is possible to enhance the lift characteristics of the valve, and improve durability of component parts of the same.